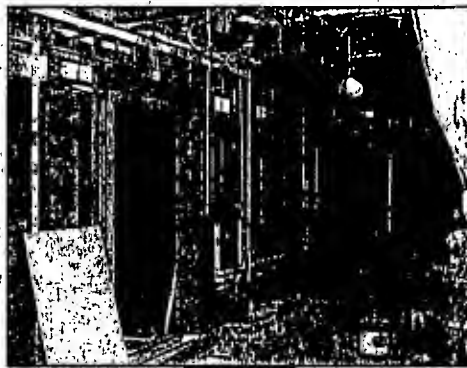


Armed Forces Institute of Pathology

ANNUAL REPORT



2002



AFIP

NATIONAL MUSEUM OF HEALTH AND MEDICINE





Adrienne Noe, PhD
Director
Date of Appointment — September 1995



NATIONAL MUSEUM OF HEALTH AND MEDICINE, AFIP

MISSION AND ACTIVITIES

The National Museum of Health and Medicine (NMHM) promotes the understanding of medicine, past, present, and future, with a special emphasis on American military medicine. It inspires interest in personal and public health. As the nation's museum of health and medicine since 1862, we aggressively identify, collect, and preserve important resources to achieve a broad agenda of innovative exhibitions, educational programs, and scientific, historical and medical investigations.

To achieve this, we promote the responsible use of the nation's National Historic Landmark collection by continuing to expand and catalog the collections, to record detailed information about the holdings and to edit record to make databases available for the Internet, which allow the collection to be more accessible to researchers. We cultivate ties with professional medical societies and with the DoD to assist in collecting artifacts significant to the history of the practice of medicine and the evolution of medical technology, emphasizing military medicine. Finally, we collect, preserve and interpret modern examples of significant medical technology to document the history of the practice of military medicine and the evolution of medical technology to ensure the continued development of the National Museum of Health and Medicine, AFIP, as a DoD asset and as a national and international resource for the military medical community, professional health care workers and the general public.

In so doing, we emphasize the Museum's focus on critical public and military health issues, the importance of the Museum as a bridge between biomedicine and the general public, the Museum's role in helping to recruit the health professionals of tomorrow, and the Museum's research programs in medical history, medical imaging, and other areas.

ORGANIZATION

The Museum is organized into the Office of the Director, Public Programs and Exhibitions, and Collections and Research.

OFFICE OF THE DIRECTOR

STAFF

Adrienne Noe, PhD, Director
Donna R. White, Administrator
Steven Solomon, Public Affairs Officer
Theresa Butler, Staff Assistant
(D) Cynthia Muldrow, Administrative Support Assistant
Rachel Coker, Public Affairs Assistant
Maurice Young, Special Events and Facilities Manager
Shelly Currie, Visitor Services Representative
Nicole Gunter, Visitor Services Representative

Stacie Bland, Visitor Services Representative
Melba Stewart, Visitor Services Representative

The Office of the Director oversees the general activities and governance of all aspects of the Museum and provides policy, technical, and scientific direction. It directs all activities for the site, facility, and programs of the Museum as its activities evolve. Specific activities handled within the office are external and internal relations, governmental affairs, collections development, press and public relations, inter- and intra-institutional collaborations and all aspects of institutional development. The office works with print and broadcast media, congressional offices, and local, national, and community organizations. The administrative support staff continues to improve the quality of support provided to the departments of the Museum. This administrative group provides a variety of management services essential to the operation of the Museum in the areas of budgeting, manpower/personnel, contract administration, and organizational management. The office provides general supervision of the Office of Public Affairs, Programs and Exhibitions, and Collections and Research.

The Office of the Director communicates and coordinates with the American Registry of Pathology (PL94-361) for the operation of the Gift Shop and with numerous public and private organizations for institutional development, through the ARP. The Director is a member of the AFIP Executive Committee and an Associate Director of the AFIP.

Promotion of Museum programs continues to accelerate in collaboration with professional medical and scholarly societies, and other groups, and with such federal organizations as the National Institutes of Health, the National Science Foundation, the Smithsonian Institution, and the Uniformed Services University of the Health Sciences. Other groups with which the Office worked include the Howard Hughes Medical Institute, the Osler Society, the American Academy of Orthopedic Surgeons, Aerospace Medical Association, the American Anatomical Association, the American Association of Clinical Anatomists, the National Academy of Sciences and many local special interest groups. Office staff members have also supported activities at WRAMC's Ward 72. Fifty-one informal and formal lectures regarding the Museum and its mission were given.

Exhibition development activities continued ongoing work with federal organizations (DoD, Department of Health and Human Services, etc) and the Director served in advisory capacities for the development of the new Cold Spring Harbor Dolan DNA Learning Center, the Stetten Museum of the National Institutes of Health, the National Veterans Affairs Museum, and the congressionally sponsored Montgomery County Science Education Initiative. In addition, the Museum continued its national observance of the 50th anniversary of the Korean Conflict with the display of its exhibition on its medical aspects and offering complementary public programs. Significant in-kind support for the promotion of the exhibition "eMotion: An Exhibition of Orthopaedics in Art" was received from the American Association of Orthopedic Surgeons. In increased collaboration with AFIP staff, we produced the next in a series called "Research Matters," an exhibition about arsenic occurrence worldwide and the consequences of exposure to it. In partnership with Alexander Tsiras and his organization, Anatomical Travelogue, Incorporated of New York, New York, the Museum put on the exhibition "Conception to Birth" and reinvigorated the popular human development exhibition. These activities and others facilitated increased public outreach and expanded media activities, while opportunities to increase accessibility to museum assets continue to be pursued at WRAMC and beyond.

As part of a continued effort to increase the effectiveness of the Museum's budget and staff efforts, the staff has accelerated its participation in collaborative projects with other universities, museums, and federal agencies. Activities include joint programming, collection collaborations, and shared exhibition development. During 2002, work continued on several extramurally funded research projects, entailing collaborations with numerous federal, state-level, and local groups. In this vein, monthly health awareness events coordinated with the local 501 c 3 organization "Health Pact, Incorporated," are increasingly successful, as is the annual involvement with the Dana Alliance for Brain Initiatives during National Brain Awareness Week. Collections development has proceeded apace, and the office appreciates all Museum donors. Donations of internationally significant items continue to advance the Museum's role as the national repository of holdings documenting the history of medicine and medical research.

GIFT SHOP

On October 29, 2002, the Museum opened its Gift Shop and operates as a Cooperative Business Enterprise between the American Registry of Pathology and the Armed Forces Institute of Pathology. It serves 4 main purposes: to offer a convenience to the members of the local

community; to advance marketing efforts of the Museum and Institute; to extend the effectiveness of the Museum's programs and exhibitions by selling objects related to Museum activities; and to generate revenue. The Gift Shop has received many laudatory comments about its inventory of the items and books that can be purchased. Each object has a distinct connection with the Museum's mission and/or exhibits that are displayed.

FACILITIES AND SPECIAL EVENTS

The Museum's Facilities and Special Events staff, in conjunction with the AFIP Directorate of Logistics Department, support and offer consultation to the NMHM in the following areas: physical security, storage, movement, maintenance; repair and accountability of materials, housekeeping; exhibit upkeep and maintenance; waste collection and disposal, and notifies the Provost Marshal of museum visitation on to the Walter Reed Army Medical Post. This department serves as NMHM liaison with the AFIP Office of Safety Management. It also maintains an inventory of all hazardous chemicals located within the Museum, serves as a member of many safety-related committees, and investigates all facilities safety issues concerning staff and visitors.

During the 2002 calendar year, the Facilities Department assisted in disassembling temporary exhibits, repaired and painted exhibit space for new exhibits, renovated assigned space for the Museum Gift Shop, and coordinated service requests to the AFIP Logistics Department to assist in updating the Museum to safety regulations.

Special Events Staff supports the NMHM in its mission to support the AFIP, WRAMC, and the surrounding community by hosting and scheduling events such as the Annual National Student Leadership Conference, the National Counsel of Negro Women's Annual Black Family Reunion kick-off reception, WRAMC's Medical Management of Chemical and Biological Casualties Training Course, the Soldier's Skilled Training Course Graduation, Washington Society for the History of Medicine monthly meetings, the Department of Medical Education's Medical Education Course, and the very prestigious annual Ash Lecture.

The Special Events Branch of the Facilities Department has written and updated standard operating procedures for Museum meetings and receptions that are given to the individuals hosting events at the Museum. The office staffs and secures each event with Visitor Service Representatives who are trained in customer service. The office provides information about DoD-certified specialty caterers who are familiar with the policy and procedures of the Museum and assists in supplying the presenters' audio/visual needs.

During the 2002 calendar year, the Museum hosted 20 major events with over 8,000 participants.

PUBLIC AFFAIRS

During 2002, the Museum's Public Affairs Office continued marketing efforts and strengthened relationships within the business, museum, and tourism communities to increase awareness of the Museum throughout the Washington, DC metropolitan area, and among tourism and military audiences.

There are various community organizations in the area, and the museum maintains a relationship and cultivates ties with as many area grassroots and cultural-based organizations as possible in order to better position itself as a significant historical, community, and cultural attraction.

The Museum remained an active member of the DC Heritage Tourism Coalition, a consortium of more than 80 cultural and community organizations in Washington, DC with a common goal to strengthen the image and the economy of the District of Columbia by engaging visitors in the diverse heritage of the city beyond the National Mall and monuments. Through the DC Heritage Tourism Coalition, the Museum received prominent recognition in its publication providing an inventory of all DC cultural attractions by neighborhood and theme. The Museum benefits from other efforts organized through the DC Heritage Tourism Coalition, such as collaborative marketing materials, a joint product-licensing program, and a Neighborhood Heritage Trail tour along the Georgia Avenue corridor.

The Museum also increased its ties with the DC Convention and Visitors Association, the District of Columbia Chamber of Commerce, and the Washington, DC Convention and Tourism Corporation.

The Museum remained a designated site on the Civil War Discovery Trail, which was named one of 16 National Millennium Trails in the United States by the White House. As a result, the Museum received recognition in marketing and promotional materials produced by the Civil

War Trust at no cost.

The Museum responded throughout the year to requests for information or assistance received by e-mail, telephone, and mail from the general public. An example of a request handled by a Museum staff member during 2002 is, "I am a ninth grade student at Thomas Jefferson High School for Science and Technology. I am doing a project on Black Death and its effects both on the Renaissance and the modern day. My biology teacher ... highly recommended your museum and gave me your information pamphlet. I was wondering if I could ask one of your staff members a few questions regarding my project. Thank you for your time!" Such requests are numerous throughout the year and each receives individual attention, with Museum experts sharing information as well as pointing students to research resources both at the Museum and elsewhere.

Marketing

Working closely with the Museum's Public Programming Department, Public Affairs placed an emphasis on promoting programs and workshops to the local community to raise awareness of the Museum's educational offerings and to increase program attendance.

Print advertisements for the Museum and its exhibits and programs appeared in:

- Best Bets (annual circulation: 750,000) distributed in the Washington, DC metro area to Martz/Gray Line Tour riders, 65 hotels, DC and Virginia visitor centers, etc.
- Families Magazine (monthly circulation: 100,000) distributed in the Washington, DC metro area to public and private schools, libraries, Barnes and Noble, hospitals, doctors' offices, Fuddruckers, Zainy Brainy, etc.
- MAP Washington (annual circulation: 1 million) distributed in the Washington, DC metro area to Maryland and Virginia Welcome Centers, hotels/motels, car rental agencies, taxi cab companies, congressional offices, etc.
- Museums Washington Magazine (quarterly circulation: 150,000) distributed to concierges and in rooms at more than 80 hotels in the Washington, DC area.
- Washington Flyer (bimonthly circulation: 180,000) distributed at Ronald Reagan National and Dulles International airports.
- Where Magazine (monthly circulation: 100,000) distributed to 128 hotels through in-room and concierge desk in Washington, DC, Virginia, and Maryland, such as Four Seasons Hotel and Hay-Adams Hotel and more than 30 embassies.
- As an element of the AFIP, the Museum also reached the local military community through publication of print advertisements in the 9 newspapers of Comprint Military Publications that support are distributed at the government installations within the National Capital region: Pentagonam (weekly circulation: 27,000); The Beam (weekly circulation: 15,000); The Journal (weekly circulation: 10,000); Henderson Hall News (weekly circulation: 5,500); Gazette (weekly circulation: 37,000); Stripe (weekly circulation: 10,000); Standard (weekly circulation: 6,000); Trident (weekly circulation: 11,000); and Sea Services Weekly (weekly circulation: 10,000), reaching a combined circulation of more than 130,000.

A special effort was made during 2002 to promote "eMotion Pictures: An Exhibition of Orthopaedics In Art." This traveling art exhibit featured work by artists whose lives were touched by an orthopaedic condition and the physicians who treat them. It was on display at the Museum from March 15 through August 15. There was significant coverage following the exhibit's grand opening gala, where the featured guest speaker was David N. Tornberg, MD, FACS, Deputy Assistant Secretary of Defense for Clinical and Program Policy in the Office of the Assistant Secretary of Defense for Health Affairs. The Lancet published a full-page story about the exhibition and color ads were placed in the Washington Flyer magazine, Where Washington magazine, and Comprint Military Publications.

Media Coverage

The Museum increased its writing and distribution of press releases to the media in 2002, resulting in increased media exposure. More than 300 stories and newsbrief items were printed in 2002, in publications with a combined circulation of more than 21 million. (Source: Bacon's Information Clip Review). This coverage appeared in local, national, and international publications, as well as on TV and radio stations, the most notable being a major Reuters News Service feature article and a major feature story in *The New York Times*. Some highlights are:

"Readers might be surprised to learn that some of the most cutting-edge, high-tech digital images of embryos are actually portraits of an embryo known as Carnegie No. 836, now 88 years old and going strong...Computer-imaging technologies have given 836 a

new lease on life. Residing now at the National Museum of Health and Medicine in Washington, each section of 836 has been digitized, scanned into a computer for online 3-D reconstruction and information sharing. The specimen is now available in CD ROM and DVD formats that allow viewers to fly through the embryo from top to bottom. New software is being developed that will incorporate 836 into a quick-time movie, making a succession of dead embryos appear to grow before our eyes. Today's audiences obviously prefer their embryos animated."

Seattle Post-Intelligencer, November 29, 2002

"In honor of Veterans Day, check out these exhibits that focus on US Armed Forces...at the National Museum of Health and Medicine, "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds" shows how the organization reacted to the 2001 terrorist attacks."

Where Washington, November 2002

Similar articles appeared in:

USA Today, 11/7/2002
Time Magazine, 11/4/02
Stripe, 9/20/02
Science Magazine, 9/6/02
Washington City Paper, 8/16/02
Budget Travel, September 2002
The New York Times, 8/6/2002
Pentagram, 8/2/2002
Washington Families Magazine, July 2002
Where Washington, July 2002
Stripe, 7/12/02
Washington City Paper, 7/5/02
USA Today, 7/2/02
The Lancet, 6/29/02
The Washington Post, 6/25/02
ThingsToDo.com, 5/30/02
Museums Washington, Spring/Summer 2002
Reuters, 4/16/02
Sunday Washington Post, 4/14/02
Union City (Tennessee) Daily Messenger, 3/7/02
The Philadelphia Tribune, 3/5/02
Franklin (Louisiana) Banner Tribune, 2/27/02
Richmond (Kentucky) Register, 2/26/02
The Baltimore Sun, 2/19/02
The Lancet, 2/9/02
The Frederick News-Post, 2/6/02
Around Washington, DC With Kids, February 2002
Reading, Pa, Eagle/Times, 1/3/02

Also, in 2002, the museum's staff met with and/or was interviewed by media representatives for stories or documentaries on:

- ABC-TV News
- CNN
- CNN Newsource
- C-Span
- Discovery Channel
- Discovery Health Channel
- Fox News Channel
- History Channel
- Japan Broadcasting Corp
- KGMB 9 News (Honolulu, Hawaii)

- KSFN-AM (Las Vegas, Nev)
- National Geographic
- National Geographic Explorer
- News Channel 8 (DC Metro)
- WGY-AM (Albany, NY)
- WJLA-TV 7 (Washington, DC)
- WGY-AM (Albany, NY)
- WRXK-FM (Fort Myers, Fla)
- WUSA-TV 9 (Washington, DC)

Museum Newsletter

The Museum's newsletter, "Flesh and Bones," was published 12 times during 2002, 4 more than in 2001. In addition to being distributed internally to the departments of the AFIP, the newsletter was mailed to the Museum's mailing list, which includes the media, schools, libraries, and visitors who have signed up to receive information by mail. It contains articles that are researched and written by the museum staff about new exhibits, special programs, recently acquired artifacts, loans to other museums, grants and other activities.

The World Wide Web

The Museum Public Affairs Office was principally involved in expanding content on the Museum Web site to include information about new temporary exhibits, such as "Conception to Birth," based on a book by Alexander Tsiaras that traces the growth and development of human life. In addition, the Museum worked with its Webmaster to post information about upcoming programs and events in a timely manner. The Museum also continued to pursue opportunities to be added to other museum and tourism Web sites. According to the Web site's traffic report provided by Web Trends, the Web site is averaging more than 6,000 hits daily with the average unique viewer looking at 5 different pages for more than 8 minutes during each visit to the Web site.

The museum ensures accurate and timely information is provided to online Web site information resources, such as:

DC Chamber of Commerce at <http://www.dcchamber.org/>.

DC Heritage and Tourism Coalition at <http://www.dcheritage.org/index.htm>.

DC Visitor Information at <http://www.dcvist.com/>.

WETA ExploreDC at <http://www.exploredc.org/>.

Washington, DC Convention and Tourism Corporation at <http://www.washington.org/index>.

Museums of the World in Germany at www.museum.com

Global Museum at www.globalmuseum.org

DEPARTMENT OF PUBLIC PROGRAMS AND EXHIBITIONS

MISSION

The division directs and coordinates operational and interpretive components of the Museum. This includes administration, exhibitions, public programs, educational tours, facilities use, and related activities. Division staff worked with governmental agencies, professional associations, museums, and individuals to develop interpretive strategies that promote greater public awareness of contemporary and historical perspectives on disease, public health, and health education.

STAFF

James Carey Crane, Exhibits Manager
 Jeffrey Mitchell, MA, Visual Information Specialist
 Janet Melson Burns, MA, Public Programs Coordinator
 Vacant, Tour Program Manager
 Sandra V. Saluke, MAT, Educator

DOCENTS

Sal Battiata, MD; Ed Beeman, MD; Catherine Bonomo, BS; Jacqueline Burton, BSN; Edward

Byrdy, BS Ph; James DePersis; Ira Green, MD; Marjorie Hughes, MD; Regina Hunt; Albert Jacobs, MEE; Marianne Jessee, MS, MGA; Gail Katz, BS; LaVerne Madancy, MA; Kay McMahon, BS; Richard Mulvaney, MD; Sol Pargament; Colleen Pettis, MA, MS; Anne Pollin; Anthony Rondello; Enid Rosen, BS; Karen Sanders, MS; MSGT Christian Sepulveda, AS; George Sharpe, MD; Shen Sung, MD; Stephen Schiaffino, PhD; Caroline Whittenberg, MSN; and Alan Winshel, MD.

MUSEUM VOLUNTEERS

Gloria Feeney
Michael Mendelson, AA
S. Steven Schiaffino, PhD

VISITOR SERVICES

Overall attendance decreased by 1.9 % over last year. The number of guided tours decreased, with guided tour attendance also decreasing by 59%. The number of unguided tours increased by 6.3%, with visitors participating in unguided tours increasing by 3.6%. In 2002 the number of individuals attending public programs decreased by 21%.

In addition to the September 11th terrorist attacks in 2001, which negatively impacted our attendance, the October 2002 sniper attacks in the metropolitan Washington, DC area also caused a drop in tour group attendance. Many local school districts restricted field trips, which decreased school tour attendance for the 2001-2002 school year and during the sniper attacks. WRAMC implementation of restricted access conditions following the terrorist attacks, which continued to limit access to the post and Museum throughout 2002

PUBLIC PROGRAMS

Programming presented in conjunction with the exhibit "To Bind Up the Nation's Wounds: Medicine During the Civil War" included a talk by Lenore Barbian, PhD, assistant curator of the Anatomical Collections and screening of the film "Glory" in February. Dr. Barbian's lecture provided information on many items included in a special display of specimens belonging to black soldiers who fought during the Civil War. "Glory," an Academy Award-winning film, tells the story of the Union's all black 54th Regiment and its struggle to defeat prejudice and neglect to prove itself worthy in battle.

In July the Museum presented a reenactment of General Daniel E. Sickles' annual visit to the museum to view his amputated leg on display. Gregory Johnson, a Civil War lecturer, historian, and member of the Civil War Heritage Foundation portrayed the famous Major General, revealing insights into the life of this Civil War Union officer. Sickles would visit his leg that he donated after it was amputated as result of a battle injury every year on the anniversary of the amputation. His tibia and fibula are the most visited specimens on display at the Museum. Also included in this program was a talk by Dr. Lenore Barbian which highlighted several medical procedures used to save lives during this war. She also pointed out specimens that illustrated the types of injuries encountered on the battlefield.

In conjunction with the exhibition "eMotion: An Exhibit of Orthopaedics in Art," a 3-hour program entitled "Exercise for a Healthy Skeleton" was presented. This program was designed to allow younger audiences the opportunity to explore the human skeleton and its functions, as well as learn how to strengthen bones and joints through proper nutrition and exercise. This program was offered in April and September and will continue to be offered in 2003.

In April the museum presented "Sense of Smell Day," a program that celebrated the olfactory system and the important role it plays in our everyday lives. This program was designed to give children and adults opportunities to learn more about the significance and benefits of the olfactory system through lots of hands-on activities and presentations. Tabitha Viner with the Division of Veterinary Pathology at the AFIP revealed how different the olfactory systems are in various animals compared to the human olfactory system. Archie Fobbs, curator of the Neuroanatomical Collection, and Surinder Sandhu, PhD, assistant curator of the Neuroanatomical Collection, presented hands-on presentations illustrating how the brain detects and processes olfactory messages. Marjorie Hughes, MD, and Regina Hunt, Museum docents, presented "Smelly Concentration," game of memory and discerning olfactory skill. This program will continue as an annual event for the Museum.

Paul Sledzik, MS, the museum's curator of Anatomical Collections, presented the lecture "Vampires: Truth Behind the Fiction" for the museum's annual Halloween program was presented in October. This program also included "Forensics Mystery" workshops that allowed children and adults to participate in hands-on activities designed to gain a better understand-

ing of forensic science. The participants closely examined replicated skeletal remains, dental evidence, and fingerprints to determine to whom, among the list of missing persons, these remains belonged.

Students learned about worms, bacteria, protozoa and viruses at the Museum in November when they attended "Germ Fest," a new program designed especially for middle school students. Through lectures and hands-on activities, students were given opportunities to learn how germs and contamination cause illnesses, infections and diseases. Ronald C. Neafie, MS, Chief, Parasitology Branch, and Ann M. Nelson, MD, Chief, AIDS Pathology and Emerging Infectious Diseases Branch of the Division of Infectious and Tropical Diseases Pathology at the AFIP, were presenters at the program. Mr. Neafie gave students a better understanding of parasites and how they transmit and cause disease, while Dr. Nelson revealed how HIV affects the body and how medications are used to treat HIV infection. Marianna Jessee, MS, MGA, a microbiologist retired from the NIH and a Museum docent, provided opportunities for students to compare various germs using microscopes and enlarged printed images of slide samples. Sandy Saluke, the Museum educator, presented a plenary lecture on what germs are, their variations and different sizes. Jacqueline Burton, BSN, a retired nurse and Museum docent, took charge of the "Germ Scavenger Hunt," a game that had students search exhibits for examples of diseases caused by germs.

OTHER EVENTS AND PROGRAMS

NMHM collaborated with American University, Howard University, University of Maryland, the NIH, WRAMC's Head Trauma Department, and the Dana Alliance for Brain Initiatives to present the annual "Brain Awareness Week" program in March 2002. This week-long program offered middle and high school students the chance to interact with local neuroscientists. They also got to see, touch and learn all about the human brain. Burton M. Slotnick, PhD, Department of Psychology at American University; Martha I. Davila-Garcia, MD, professor of pharmacology at Howard University; Lisa Sanders, PhD, of the Cognitive Neuroscience of Language Laboratories at the University of Maryland; Catherine Sasek, PhD, of the National Institute on Drug Abuse (NIDA) of NIH; Cindy Miner, PhD, of NIDA of NIH; Dave Thomas, PhD, of NIDA of NIH; Marina Voklov, PhD, of NIDA of NIH; Charles Desbordes, PhD, of NIDA of NIH; Dennis A. Twombly, PhD, of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) of NIH; Roger Sorenson, PhD, of NIAAA of NIH; Beth Molloy of the National Institute of Mental Health (NIMH) of NIH; Jay Gieed, MD, of NIMH of NIH; Barry Kaplan, MD, of NIMH of NIH; Lynn Hudson, PhD, of National Institute of Neurological Disorders and Stroke of NIH; Lisa Moy Martin and Alice Marie Stevens with the Head Trauma Department at WRAMC; NMHM's Archie Fobbs and Surinder Sandhu presented lectures, hands-on activities and technical demonstrations that highlighted various brain functions and disturbances. Over 600 students participated in this the 5-day program.

In March "Doctor for a Day," a workshop for children and adults, was presented in collaboration with the Smithsonian Institution's Young Associates Program and Immersion Medical, a company specializing in creating computer software and equipment designed to teach medical professionals medical procedures and techniques. This workshop gave participants opportunities to explore the inner workings of the human body and learn about medical procedures that are used to keep different parts of the body functioning. Adult-child pairs toured the exhibit "Human Body, Human Being" and practiced on simulated medical instruments to experience virtually drawing blood, inserting a catheter and performing a bronchoscopy. Archie Fobbs also provided a hands-on station that allowed the participants to see, touch and hold a brain, as well as see where the olfactory system is located in the brain.

This year marked the second year that the Museum has presented "National Health Awareness Kickoffs" in collaboration with Health Pact, Inc, a local nonprofit company that assists community organizations by securing medical personnel, community groups, and medical supplies to perform certain medical screenings at health fairs, to present. This collaboration began in May 2001 and continues to be an important part of the Museum's on-going programs. National Health Awareness Kickoffs are held the first Saturday of each month to acknowledge and explore specific health issues. Medical professionals provided in-depth information on the selected health issue of the month and provided free health screenings for Museum visitors interested in the state of their health.

The Museum partnered with the National Kidney Foundation of the National Capital Area in March to present "Project Prevention," a screening and education program designed to help individuals determine their risk for the development of kidney disease and screen for potential problems.

Teacher Workshop/Open House

Local area teachers and educators received a special preview of a guided tour that school students receive at the Museum. Adrienne Noe, Paul Sledzik, Surinder Sandhu, Elizabeth Lockett, imaging specialist and manager of the Human Developmental Anatomical Center; and Jim Connor discussed ways that the Museum's collections may be used to help teachers address curriculum requirements in the classroom.

Ongoing Programs

The Museum continued to offer guided tours to walk-in visitors on the second and fourth Saturdays of each month.

Tour/Docent Program

In addition to the general tour, which introduces visitors to the highlights of the exhibition galleries, the following Curriculum Connection tours were offered during 2002: "Human Body, Human Being" and "To Bind up the Nation's Wounds: Medicine During the Civil War." The "Forensics Mystery" workshops continue to be popular hands-on activities for students, families and adults.

Docents, Museum staff, and AFIP staff benefited from educational presentations made at monthly docent meetings. Charlotte Boston, ATR-BC, a board-certified art therapist with WRAMC's Inpatient Psychiatry, discussed the history of this method of treatment and how psychiatrists and psychologists gather insightful information from the art that patients create. Dr. William Hartland, Jr., PhD and CRNA, a Revolutionary War re-enactor and a professor at Virginia Commonwealth University, presented a talk on medicine and medical procedures used during the Revolutionary War. Jacqueline Wieneke, MD, from the Department of Endocrine and Otorhinolaryngic and Head-Neck Pathology in AFIP lectured on the olfactory system. Barbara Green, American Red Cross (ARC) Station Manager for WRAMC described the work of ARC in assisting victims of disaster, as well as ARC's response to the September 11, 2001 terrorist attacks. Kimberlee Potter, PhD, technical director of the Magnetic Resonance Imaging (MRI) Microscopy Facility of AFIP, talked about MRIs and how they work, as well as her research using this technology. These presentations continue to be a critical element in the ongoing training of docents and staff.

EXHIBITIONS DIVISION

RESEARCH MATTERS EXHIBIT

"Research Matters" is a changing exhibit established in 1996 to inform visitors of recent contributions by the AFIP research to US military medicine and to public health. Opening May 29, 2002, "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds," featured photographs never before seen by the public, taken by AFIP staff during commission of their duties. Participant's personal and professional reflections illuminated the photographs. The AFIP successfully identified 184 Pentagon victims, provided positive DNA identifications on all 40 Pennsylvania victims, and developed genetic profiles of the terrorists that could not be matched to any of the other victims. A team of more than 70 AFIP personnel was assembled, including civilians and members of every branch of service, to perform forensic pathology, forensic odontology, forensic anthropology, photographic work, and DNA services to identify victims. AFIP staff were sent to the Dover Port Mortuary at Dover Air Force Base in Delaware, to the Pentagon crash site, and to Somerset County, Pa. At the AFIP's Armed Forces DNA Identification Laboratory (AFDIL), more than 45 forensic scientists and support personnel provided critical DNA expertise.

TEMPORARY EXHIBITS

In September "Research Matters: 9/11, The Armed Forces Institute of Pathology Responds," was supplemented by "Reflections on Freedom," a presentation of essays by military and civilian forensic and other medical professionals associated with the Armed Forces called upon to recover and identify victims of the September 11, 2001 terrorist attacks. Essays explained how the respondents served to reaffirm and protect the freedoms of Americans, including freedom to assemble, freedom to create, freedom to worship, freedom to inquire, freedom to express ideas, and freedom from fear.

Artist Suzanne Fierston of Gaithersburg, Maryland, was inspired by the permanent exhibit "Evolution of the Microscope" to create "In Focus," a series of 7 watercolor renderings of microscopes. The series was displayed within the exhibit hall, which features examples from

the Billings collection, the world's most comprehensive chronicle of microscope development. The series was previously exhibited at Lombardi Cancer Center at Georgetown University Medical Center.

Links between the medical arts and humanities continued to be explored and celebrated within Silliphant Hall, the Museum's 1,430-square-foot changing installation space, and in the adjacent gallery. Museum staff supplemented and installed one traveling exhibit, "eMotion Pictures: An Exhibition of Orthopaedics in Art" and curated, designed, and installed a second exhibit, "Conception to Birth."

"eMotion Pictures: An Exhibition of Orthopaedics in Art," a traveling art exhibit featuring work by artists whose lives have been touched by an orthopedic condition and the physicians who treat them, was displayed from March 15, 2002 through August 15, 2002. Organized by the American Academy of Orthopaedic Surgeons (AAOS), jurors selected 165 pieces for the show from 1,400 slides depicting works of art that were submitted by orthopedic surgeons and adult and child artists with orthopedic conditions, representing 17 countries and 43 states. From these works, Museum staff chose 36 to be exhibited at the NMHM. Several pieces from the Museum's anatomical collection and a dinosaur humerus loaned by the American Museum of Natural History, Washington, DC augmented the AAOS artwork in the exhibition. The exhibit included 2 installations created specifically for the NMHM exhibition by local artists Pia of Potomac, Md, and Carmen Trujillo of Washington, DC. Kathleen Fletcher's art class at Walter Johnson High School in Bethesda, Maryland showed 13 original drawings of the skeletal system.

"Conception to Birth," exhibited from October 29th thru August 29, 2003, chronicled the growth and development of human life through more than 80 images, an interactive display, and a 10-minute video. The exhibit was based on a book "From Conception to Birth: A Life Unfolds" by Alexander Tsiaras, text by Barry Werth. By using a new medical imaging technology, Tsiaras was able to capture images of the developing baby from never before seen angles. Many of the images in the exhibit and book are from the museum's Carnegie Human Embryo Collection, which primarily focuses on normal development in the first 8 weeks of pregnancy. "This exhibit takes the visitor through a visual journey of the development of life," said Tsiaras. "It also gives them an understanding of the medical imaging technology used to create the exhibit."

National History Day Program Exhibits

Seven young historians and their families were invited to the Museum to display projects they created for 24th National History Day (NHD), an annual competition of more than 700,000 students in grades 6-12. This year, students competed to convey the theme "Revolution, Reaction, Reform in History." After setting up their exhibits, the students and their families were given tours by museum staff and curators. They also answered questions about their projects and were awarded a plaque. The projects, 3 displays and 2 documentaries, were on display at the museum from June 12 through October 1.

Emily Fusco, a student at A.C. Reynolds Middle School in Asheville, NC, worked for several months to create "The Face of the Enemy: Leeuwenhoek's Germs." Dana Gearity, Genesis at Xaverian, Brooklyn, NY exhibited "Thalidomide: A Personal Revolt Revolutionizes National Reform." Alexa Zolkower, a junior at Dunedin High School in Dunedin, Fla, created "Burke and Hare: The Uncovered Bodysnatchers."

Gerald Creech from Waldorf, Md screened his documentary "Medicine During the Civil War." Tom Schroeder, Allen Murugan and Nick Huster of teacher Mary Lou Waters' sixth grade class from Sycamore School in Indianapolis, Ind, worked together to produce a documentary titled "Prozac: Revolutionizing the Perception and Treatment of Depression." The Museum has hosted displays of the exhibits and documentaries during the summer since 1998.

DEPARTMENT OF COLLECTIONS

The Collections Department preserves materials representing the broad subject areas related to the history and practice of American medicine, military medicine, and modern medical and health issues and research. Each collecting division specializes in different media and subject areas. The division's responsibilities are to (1) provide the highest level of professional care for the NMHM collections and their associated documentation; (2) collect objects, specimens, and related archival materials deemed significant and relevant to the mission of the NMHM; and (3) support research, exhibits, and public programs through access of collections.

STAFF

Jim T.H. Connor, PhD, Assistant Director of Collections
Lenore Barbian, PhD, Assistant Curator, Anatomical Collection
Alan Hawk, BA, Collections Manager
Donna Quist, BA, Assistant Collection Manager
Paul Sledzik, MS, Curator, Anatomical Collection
Michael Rhode, BA, Archivist
Tabitha Oglesby, MA, Assistant Archivist
Michael Simons, Registrar

ANATOMICAL COLLECTIONS

Anatomical Collections collects and preserves human and nonhuman medical, pathological, and anatomical specimens and associated materials documenting normal anatomy and the response to disease and injury.

Education

The staff of the Anatomical Collections conducted the 15th Annual Forensic Anthropology course at the Uniformed Services University of the Health Sciences from May 6-10, 2002. Participants numbered 52. Planning for the 2003 course was undertaken.

In March 2002, Paul Sledzik and Lenore Barbian served as laboratory instructors for the forensic anthropology component of the Forensic Identification and Emerging Technologies course.

Exhibit Support

Lenore Barbian served as curator and project manager for "United States Color Troops." Paul Sledzik served as curator and Lenore Barbian as curatorial assistant for "From a Single Cell." They both provided curatorial assistance for the installation of "Conception to Birth" and for "eMotion Pictures: An Exhibition of Orthopedics in Art."

Media Involvement

Apartment 11 Productions, "Mystery Hunters," segment on New England vampire folklore research, P Sledzik.

Associated Press, November 15, 2002, "Indian Warrior's Bones to Be Buried" by R Gehrke, L Barbian.

CSPAN segment on unique Washington museums, P Sledzik.

Denver Post, November 17, 2002, "Sen. Campbell helps reunite ancestor's bones Museum had great-grandfather's leg" by B McAllister, L Barbian.

History Channel, "This Week in History," P Sledzik.

National Geographic Television, analysis of potential human remains for documentary on shark attacks, P Sledzik.

News Channel 8 (Washington, DC): Healthline segment on identification of United 93/September 11 victims, P Sledzik.

Reuters, April 17, 2002. "Museum displays flesh and bones of history." by M Gabriel, P Sledzik.

The Discovery Channel, "Unsolved History: Forensics in the White House," L Barbian.

Research Requests: 43

Repatriations Under Nagpra

June 27, 2002: the Klamath Tribes

July 17, 2002: Comanche Tribal Business Committee

October 15, 2002: the lineal descendents of Black Horse from the Northern Cheyenne Tribe

Other Activities

The staff of the anatomical collections provided 14 lectures/presentations to school groups at the NMHM/AFIP and in the DC metropolitan area.

Lenore Barbian served as forensic anthropological consultants to the Somerset County (Pennsylvania) Coroner regarding issues of final disposition of human remains from the crash of United Airlines flight 93.

Paul Sledzik continued his involvement as a member of the board of directors of the Ellis Kerley Forensic Sciences Foundation and as a consultant to the National Center for Missing and Exploited Children. He completed a 4-year assignment as Team Leader for the Region III

Disaster Mortuary Operational Response Team (DMORT).

The staff provided support to the Department of Oral Pathology in the assessment of aging cases for the Immigration and Naturalization Service.

HISTORICAL COLLECTIONS

The Division of Historical Collections acquires and preserves both artifacts of record and those of note, documenting the history of the practice of medicine, innovations in biomedical research and the evolution of medical technology. The collection emphasizes the role of the US Armed Services, US Public Health Service, and the federal government as it relates to the above themes. The collection is made available for the education of medical professionals, DoD personnel, historians and the public through exhibits in the museum, loans to other institutions and individualized study.

Consultations

Historical Collections responded to approximately 80 research requests from both military and civilian sectors. In all cases these inquiries were answered promptly and successfully based on the holdings of Historical Collections, or the matter was resolved by directing the party to another expert resource. During this year continued progress was made in cataloging, artifact identification, and planning for an integrated database. The reserve microscope collection of approximately 500 instruments was temporarily relocated to permit asbestos abatement of the microscope storage room. Notable among the approximately 800 artifacts acquired for Historical Collections in 2002 was the Drs. Rabkin Collection, which included a comprehensive and representative cross-section of American family practice instruments, furnishings, medications, documents, ephemera, and medical memorabilia spanning the second half of the 20th century.

A. Hawk returned to the museum in January 2002 after a 2-month tour of duty as a Naval Reservist for Operation Noble Eagle. Hawk was again activated beginning in the fall of 2002.

Education

Historical Collections staff conducted 20 groups through the holdings both on the floor and behind the scenes. These activities introduced numerous visiting high-ranking military personnel and others to the richness and worth of this collection. The research value of these assets to all uniformed services and the nation was appreciated by all who examined them. Historical Collections staff also actively supported the mission of other museum departments in furthering the educational role of the institution. Staff also presented formal lectures focusing on military medicine and healthcare to student and professional groups. The broader public was constantly reminded of the breadth, depth, and military relevance of the Historical Collections through print and broadcast media interviews, including *The New York Times* and *Science*. Images of artifacts were also supplied to the ARP, which appeared in its widely distributed and much anticipated calendar publication. Educational activities of this division also embraced scholarly publication on military medicine from the Civil War to Vietnam as noted below. J.T.H. Connor organized and chaired a workshop entitled "Exhibiting Medicine: Case Lessons from the Front Lines," for the annual meeting of the American Association for the History of Medicine held in Kansas City, Kan. Participants included A. Hawk as well as M. Rhode, P. Sledzik and L. Barbian. These presentations were well received; they also highlighted the museum as well as demonstrating the expertise of Collections staff.

OTIS HISTORICAL ARCHIVES

Due to renovations, Otis Archives was officially closed for most of 2002. The Archives was successfully moved to temporary office space on the first floor and returned to M-018 with no losses or damages to the collection, or injuries to staff. This project had taken up most of the year and the archives was closed from January 21, 2002-January 2, 2003. An FM-200 fire suppression system replaced the halon system, a new ceiling, doors and lights were installed, the walls were painted and the carpeting was replaced. Oglesby left in October on maternity leave. Gloria Feeney began as Historical Collection's volunteer, but has transferred to the Archives during Hawk's military leave. She has been working on organizing photographs transferred from the National Library of Medicine. COL Dave Lounsbury, head of the Borden Institute, has been assisting in organizing military medicine and surgery photographs and plans to use a selection of them in the *Textbook of Military Medicine* series. Computerized cataloguing on the collection level has continued in the shelf inventory. Cataloguing for the General Medical Products Information Collection, Medical Ephemera, New Contributed Photographs, audiovisual collection, AFIP historical files and others was done. Substantial

requests for information were handled, frequently regarding sensitive topics, although at a lesser rate since the Archives was officially closed for the entire year. Records on AFIP history have been provided throughout the year as required. Material was provided to the military including DoD Health Affairs - Health Operations Policy office, US Army Office of the Surgeon General's Office of Medical History (McGee exhibit), Army History magazine (Spanish-American War photographs), USUHS, and the Borden Institute. Research, mostly on military medicine, was conducted for Alliance Atlantis Communications (influenza photographs for Discovery Health Channel), BBC (Civil War photographs), California Newsreel- Human Race, Civil War Times Illustrated, Cleveland Museum of Art, Fort Verde State Historical Park, Great North International and John Gwyn Productions (Vietnam films for "War Surgeons" documentary), History Channel's This Week in History, Hoggard Films (influenza photographs), Japan Broadcasting Corporation, NIH's Office of the Director's Orientation Project (tropical medicine photographs), Skadden, Arps, Meagher, & Flom LLP (Vorwald Industrial Medicine Collection), Smithsonian Institution's National Museum of Natural History, Technica Editorial Services for the Journal of Aesthetic Plastic Surgery (Civil War photographs), Trine and Metcalf (Vorwald Industrial Medicine Collection), University of Tennessee Health Science Center- Medical Library, University of Wisconsin-Madison (Helpern collection), University of California Press (smallpox photographs), Washington City Paper, and Weitz & Luxenber, P.C. (Vorwald Industrial Medicine Collection). Julie K. Brown, in her new book *Making Culture Visible: The Public Display of Photographs at Fairs, Expositions and Exhibition in the United States, 1847-1900*, (Harwood Academic Publishers, 2001) included a substantial discussion of display of the Museum's photographs based on research in the Archives.

Several collections were arranged and described with finding aids written for them. Under my supervision, Oglesby is processing the Townsend collection. New material was acquired included Senseman's homeopathy records, Rabkin office files, a WW2 scrapbook, films and books. Museum records from staff members were added to the archives. A significant Archives presence including the Guide to the Collections of the Museum on the Web site continues to bring in researchers and several finding aids were added to the Web site which is now searchable by word. A collaborative exhibit and publication with the Borden Center on the history of surgery has begun and work on this will continue through the next year. Rhode served on the AFIP's Institutional Review Board and HIPAA Committee. Minor assistance was provided for the AFIP 2002 Calendar.

Public Affairs Reports

1. WRC/NBC. Television interview of Rhode on AFIP's atomic bomb-resistant building, aired February 7, 2002.
2. Wanda Reif. "An Inspirational Medical Memoir from a Long-Ago War," review of the Anita McGee exhibit, *The Lancet*, 359: 9305; February 9, 2002.

Exhibition Support

1. M Rhode (curator and project manager) and JTH Connor et al. "American Angels of Mercy": Dr. Anita Newcomb McGee's Pictorial Record of the Russo-Japanese War, 1904 exhibit, National Museum of Health and Medicine, Washington, DC, October 1, 2001- February 28, 2002 and a Women's History Month version in the Office of the Army Surgeon General, Falls Church, Va, March 2002.
2. J Carey Crane, M Rhode and Lenore Barbian et al. "Research Matters: 9/11 — The Armed Forces Institute of Pathology Responds" photograph exhibit, National Museum of Health and Medicine, Washington, DC, May 23, 2002-indefinite.

OFFICE OF THE REGISTRAR

(A) Michael Aurele Simons, MA, Registrar

Accessions

Individuals and institutions donating material to the museum include Dr. Adrienne Noe, Museum Director, NMHM; Dr. Ernest April, Department of Anatomy and Cell Biology, Columbia University and Dr. Charles Noback; Charles C. Barker; Dr. George Blondell; Raylene Bullock; Dr. Manuel del Cerro; Paul Forman – Curator, Modern Physics Collection, National Museum of American History; Dr. Sid Gilman, Chief of Neurosurgery, University of Michigan and Dr. Joel Vilensky, Indiana University; AFDIL-DNA Registry; Government of the District of Columbia – Department of Health, HIV/AIDS Administration; Cathy Hunter, National Geographic Society; Dr. Frank Insley; Tom Jennings; Montgomery General Hospital, Olney, Maryland; Jean Moore, House Ear Institute; Jean Morton; Office of the Chief Medical Examiner, New York, NY; Donna Quist, Historical Collections Specialist, NMHM; Dr. Boris Rabkin; Michael

Rhode, Archivist, NMHM; 74th MDSS/SGSL, Wright Patterson Air Force Base; Michael Simons, Registrar, NMHM; Paul Sledzik, Curator Anatomical Collections, NMHM; Stone House Antiques; Telemedicine and Advanced Technology Research Center, Fort Detrick; Dr. Robert Thiele; Marsha Trimble, Curator, University of Virginia Law Library; Valley Regional Hospital, Claremont, NH; WRAMC; and Jane Zuke.

Loans

The Museum loaned a total of 10 objects to 4 borrowers. Three loans were to institutions for exhibit purposes. Among these were loans to the Dolan DNA Learning Center for "Genome Exhibition: The Genes We Share"; the Rogosin Institute for the 2002 Lasker Awards; and the Lyndon Baines Johnson Library and Museum for "Discovering America: The World of Lewis and Clark." Dr. Susumo Mori used loaned materials for research.

DEPARTMENT OF RESEARCH COLLECTIONS

Research Collections have the responsibility to acquire, preserve, and encourage the use of major research collections for all qualified members of the research community. The collections are made available for research and education by appointment, and via Web site. Continued stimulation of new hypothesis-driven research is a top priority.

The Research Collections consist of 2 areas the Human Developmental Anatomy Center and the Neuroanatomy Collections and receive significant extramural funding for the pursuit of long-standing extra-institutional collaborations. The Human Developmental Anatomy Center has entered its 5th year of funding by the National Institutes of Child Health and Human Development, the National Center for Research Resources, and the Office of Research on Women's Health. The Neuroanatomy Collections continue to be the recipient of National Science Foundation funding for electronic collections development.

HUMAN DEVELOPMENTAL ANATOMY CENTER (HDAC)

STAFF

Adrienne Noe, PhD, Director
Elizabeth C. Lockett, Imaging Specialist
William F. Discher, Imaging Specialist
Kumudini Mayur, PhD, Imaging Scientist

Student Interns

Andrew Chen, Programmer
Angela Fang, Thomas Wootton High School, Montgomery County, Md
David Barney, Thomas Wootton High School, Montgomery County, Md
James Ahn, Winston Churchill High School, Montgomery County, Md
Jullie Yun, Thomas Wootton, High School, Montgomery County, Md
Kathy Cha, Winston Churchill High School, Montgomery County, Md
Nina Zheng, Thomas Wootton High School, Montgomery County, Md
Laura Zendel, University of Wisconsin
Mathew Hanson, Paint Branch High School, Montgomery County, Md
Alexander Hamidi, Howard County, Md
Betsy Chang, Winston Churchill High School, Montgomery County, Md

Collections

Carnegie Institution Human Embryological Collection
Cornell Human and Comparative Embryology Collection
Hooker Humphrey Collection
The Elizabeth Maplesden Ramsey Collection
George Sedgewick Minot Embryological Collection
Gaenssler Pulmonary Pathology Collection

Tours

The Anatomy Center hosted 39 tours this past year. Visiting military VIPs, school tours, professional organizations, and AFIP staff have visited the Center for enhanced overviews of the Museum.

Workshops

HDAC staff presented a workshop in 3-D computer modeling for disadvantaged high school girls, St. Anne Institute, Albany, NY. We participated in the open house for high school

science teachers hosted by the Museum, and lectures on the present and future uses of the Carnegie Collection were presented to the Carnegie Institute of Washington, DC.

Research

Five visiting researchers used the collections for a total of 15 days on 5 visits. Research topics included the developing heart, maxillofacial development, general development and neuroanatomy. AFIP staff requested information on pediatric pathology from the collection. The center had 17 requests for images from the collection and 3 requests for magnetic resonance microscopy data sets were prepared, requiring 41 staff days to process. Twelve CDs with sets of images from human development were sent in response to popular press requests for images.

Exhibitions

The temporary exhibit from "Conception to Birth," including visualizations from the book of the same name by Alexander Tsiaras, was substantially assisted by HDAC staff, as was the reinstallation of the anatomically based development exhibition. Images and data from the Carnegie Collection of Human Embryology were extensively used throughout the book.

Grants

1. "Human Embryology Digital Library and Support Tools" (phase 2), the Next Generation Internet Project, funded by National Library of Medicine with George Mason University as coordinator. The goal of this grant is to develop prototype databases and other technologies to enable collaboration among multiple, distributed researchers, and to progress toward advanced clinical and educational goals in human embryology.
2. "Human Embryology on DVD," with Louisiana State University Medical Center, funded by the National Library of Medicine. The objective of this project is to provide students, educators, and researchers accurate, inexpensive, and accessible visual information on human embryonic development. Aligned digital images of the serial sections of the best normal human embryos in the Carnegie Collection will be made available on computer disks (DVDs).

Collaborative Projects

Johns Hopkins University: To provide specimens from normal human development for MRM to examine the early growth of neural pathways. Data sets from this project are added to the Digital Embryo Library and made available to any qualified researcher.

National Institutes of Health: To create high resolution MRM data sets of 2nd and early 3rd trimester fetus for inclusion in the Digital Embryo Library.

University of Illinois at Chicago: Continued production of a series of animations depicting normal human development using models generated at the center. These will be viewed via Web site for teaching and patient information.

Web site

The HDAC Web site underwent a reorganization to streamline navigation through the site. Collections history and the history of the center was updated. Biographical information about researchers who have performed ground-breaking research with the collection is provided as is a brief history of the development of the Carnegie Collection by the Carnegie Institute of Washington. Information for use in human developmental anatomy education was re-organized and consolidated. Anatomical information from the "Contributions to Embryology" is provided with models developed by the Human Developmental Anatomy Center. An electronic version of a laboratory manual developed by the Harvard School of Medicine, a glossary of terms and table to developmental stages have been posted as aids for teaching embryology. The University of Illinois at Chicago has been developing a Web site as part of the Visible Embryo Project for use in on-line education. The site is currently incorporated into the curricula of Johns Hopkins University, University of Illinois Chicago and University of Wisconsin for evaluation.

NEUROANATOMICAL COLLECTIONS

The Neuroanatomical staff encourages the use of its resources by all qualified members of the research community as part of its role within the AFIP and the NMHM. This division collects and preserves valuable artifacts of neuroanatomy and strives to become the premier repository in the United States for collections focusing on neuroanatomy in the embryo, the adult human, as well as other selected species. Continued stimulation of new hypothesis-driven research is a top priority.

STAFF

Archibald J. Fobbs, Collection Manager
 Surinder Sandhu, PhD, Assistant Curator

Collaborating Researchers

John I. Johnson, PhD, Department of Anatomy, Michigan State University
 Wally I. Welker, PhD, Department of Physiology, University of Wisconsin-Madison
 John Allman, PhD, Hixon Professor of Neurobiology, Division of Biology, California Institute of Technology
 Kebreten Manaye, MD, Department of Physiology and Physics, Howard University College of Medicine
 Kondi Wong, MD, Department of Neuropathology, AFIP

Volunteers

Stephen Schiaffino, PhD

Student Interns

Vikas Patel, University of Maryland Baltimore County, Md
 Roxanna Montaya, River Hill High School, Md
 Christopher Ewing, River Hill High School, Md
 Jessica Reitz, Paint Branch High School, Md
 Matthew Skelly, Paint Branch High School, Md
 Jonathan Wiegler, Paint Branch High School, Md
 Melissa Smolls, Science and Engineering Program George Washington University

Collections

Yakovlev-Haleem Neuropathology and Development Collection
 Blackburn-Newmann Collection
 Lindenburg Forensic Pathology Collection
 Welker Comparative Neuroanatomy Collection
 Rubenstein Collection
 Adolph Meyer Neuropathology and Development Collection
 Isabel Lockhard Comparative Neuroanatomy Collection
 The Publos Anatomical Collection
 Denny Brown Neuromuscular Collection
 Starr Collection
 William Cruce Collection
 Harrison Collection

Web site

The universities of Wisconsin-Madison, and Michigan State implemented and supervise the Web site. Financial support for this Web site is provided by a grant from the National Science Foundation. Collection inquiries via the Web site increased 50 percent over the prior year. Requests for collection images, scheduled visits to the collections division, and visits to the museum have all increased as a result of the Web site. Educators report that the Web site is a useful curriculum development resource for science projects and for answering structural and functional questions about the brain.

The Web site widely publicizes images and information about the existence, contents, and value of the brain collections. Via the internet, information about sectioned brain specimens at the 3 institutions will be presented and promoted electronically on our Brain Collection home page <http://www.brainmuseum.org>, with additional information on ancillary sites, including <http://www.manateebrain.org>; <http://www.brains.rad.msu.edu> (the Michigan State portal); and <http://turing.commtelab.msu.edu/default.htm> (the database site). The 4 sites are interlinked; all can be reached from one another. The visual presentations that we have already made on the internet, and that we are about to expand, have aroused interest in comparative neuroanatomy and enhanced understanding about the nervous system to a wide audience.

Conservation

The fluid-preserved tissue conservation for the Yakovlev-Haleem Collection and the Welker Comparative Neuroanatomy Collection continues. Conservation procedures are performed on a regular basis and fluids are changed as needed. In an effort to improve the conservation efforts the fluid preserved tissue of the Yakovlev-Haleem Collection has been transferred to the

museum's off site storage facility in Gaithersburg, Maryland.

The Blackburn-Neumann Collection fluid preserved tissue evaluation and conservation effort has been completed. As a result, the condition of the tissue, the type and condition of the fluid, and condition of the containers were improved. This information has been used to develop statement of work and a standard operating procedure for implementation of a complete conservation reconditioning of all fluid preserved tissue specimens in the collection. Paper documents of the Blackburn-Neumann Collections were moved from the Department of Neuropathology and safely housed in map cases in the Otis Historical Archives.

Collection staff are currently identifying conservation needs and examining Welker Comparative Neuroanatomy Collection slides, along with all other collection slides. This information is used to continue to develop and implement a conservation plan. The Yakovlev-Haleem library continues to be organized into its new bookcases. As the reorganization takes place, evaluation of the condition of the contents continues.

Equipment

A new server has been added to handle file transport process applications, image acquisition, data storage, brain specimen reconstruction and digital graphic imaging. This equipment is available to researchers and student interns. Four new graphic user interface capture work stations have been obtained via extramural funding, so that project time and efficiency can be managed more effectively.

Research

Researchers visiting the Neuroanatomical Collections increased by 50 percent. The number of researchers visiting the collections during 2002 totaled 230. Despite the constant security changes and difficulties for all visitors. Many visiting researchers obtained collection information via the internet and staff membership in neuroscience organizations. The National Science Foundation continues to recognize the collaboration between the NMHM/AFIP/ARP, the University of Wisconsin-Madison, and Michigan State University as one of its model projects and has continued and increased the funding for NMHM and these collaborators.

The number of students taking part in various research activities increased by 50 percent. The Neuroanatomical Collections were instrumental in providing valuable educational experiences for students from Paint Branch High School in Silver Spring, Maryland, Holmes Middle School in Alexandria, Virginia, and the Thomas Pyle Middle School in Montgomery County, Maryland. Howard County Technology Magnet Applications and Research Laboratory Program has partnered with the NMHM of the AFIP to promote internships for high school students of Howard County. This relationship provides research opportunities for students attending the county's technical magnet programs at Long Reach and Paint Branch high schools in Columbia, and River Hill High School in Clarksville, Maryland.

Outreach

The Neuroanatomical division of the NMHM/AFIP, the Dana Alliance for Brain Initiatives, and the NIH collaborated on a Brain Awareness program. Students from Virginia, Maryland, and the District of Columbia were invited to hear featured speakers from NIH and to participate in interactive demonstrations. They also viewed artifacts from the Museum's brain collections. A total of 1,200 students attended the 5-day program.

Elementary and secondary educators continue to increasingly use the collection for classroom instruction. One such institution is Stevens Forest Elementary where students have been provided a series of lectures for grades K through 5.

Extensive alphanumeric data from museum collection specimens are also used worldwide via Internet presentation. Interns with the Neuroanatomical Collections are able to gain experience with this technique using sophisticated software. Data and images from museum collection specimens are made available for use in education at all levels. This is done via the internet or via physical diskettes.

Magnetic Resonance Imaging (MRI) scans provide volumetrically and spatially accurate data about the internal architecture of brains of rare or difficult-to-process species of animals. The spatial data can be analyzed in 3-D models. Student interns obtain scans using software such as MAYA and SURFDRIIVER, with which they commence 3-D modeling. The project has provided opportunities for training interns in the use of data storage, electronic imaging, and the acquisition of neuroanatomical data, including 3-D surface render modeling.

Tours

The Neuroanatomy Center hosted approximately 100 tours during 2002.

Library

Yakovlev-Haleem Collection Library usage increased by 20 percent. The major source of the increase was students taking the AFIP Neuropathology Review Course, AFIP Department of Neuropathology staff members, and visiting researchers.

PRESENTATIONS

1. February 2002: San Diego, Calif, National Partnership for Advanced Computer Infrastructure, "The NGI/National Museum of Health and Medicine/AFIP Project," A Noe.
2. February 2002: Howard County, Md, ARL, "Applied research, demonstration of the human brain and its functions," AJ Fobbs.
3. February 2002: NMHM/AFIP, "United States colored troops," L Barbian.
4. February 2002: Atlanta, Ga, American Academy of Forensic Sciences, "The Disaster Mortuary Operational Response Team (DMORT) model for managing mass fatality incidents (workshop)," FP Saul, PS Sledzik, F Ciacio.
5. March 2002: Atlanta, GA, National Disaster Medical System, "The Response to the Crash of United Flight 93," PS Sledzik.
6. March 2002: Washington, DC, National Museum of Health and Medicine/AFIP, "Brain Awareness Week," JM Burns, S Sandhu, S Saluke, AJ Fobbs, A Noe.
7. March 2002: Bethesda, Md, Research and Education Day, United States Uniformed Health Services, "Sheep brain atlas, bottle nosed dolphin brain reconstruction in MRI," AJ Fobbs, S Sandhu.
8. April 2002: Kansas City, Kan, American Association for the History of Medicine, "Visceral reality: visitor reactions to displays of human anatomy," L Barbian.
9. April 2002: Kansas City, Mo, American Association for the History of Medicine, "A study in cases: the use of case histories at the National Museum of Health and Medicine," PS Sledzik.
10. April 2002: Frederick, Md, Mid-Atlantic Association of Forensic Sciences, "Forensic science and the Civil War," PS Sledzik.
11. April 2002: Kansas City, Mo, American Association for the History of Medicine, "Theory, practice and examples from the Otis Historical Archives," M Rhode.
12. May 2002, New Orleans, La, FASEB, Platform Talk, "Digitally reproduced embryonic morphology (DREM) available on CDs and DVDs," RF Gasser, RJ Cork.
13. May 2002: Bethesda, Md, USUHS, Research Day, "Sheep brain atlas, magnetic resonance image reconstruction of the bottle nosed dolphin," S Sandhu, AJ Fobbs.
14. June 2002: Gainesville, Fla, Association of Clinical Anatomists Annual Meeting, Platform Talk, "Animated embryology teaching tools: development of the human thorax," MJ Holterman.
15. June 2002: Gainesville, Fla, Association of Clinical Anatomists Annual Meeting, Poster, "Opportunities for internships at the Human Developmental Anatomy Center," EC Lockett, WF Discher.
16. July 2002: Washington, DC, National Center for Healthcare Statistics, "Collections assets and the next generation Internet," A Noe.
17. July 2002: NMHM/AFIP, "Civil War medicine," L Barbian.
18. July 2002: Washington, DC, National Museum of Health and Medicine/AFIP, National Youth Leadership Forum on Medicine Careers in Science, AJ Fobbs.
19. July 2002: Frederick, Md, National Cancer Institute (NIH), "Unlocking the mysteries of the brain," AJ Fobbs.
20. July 2002: Barcelona, Spain, Joint Meeting of the British Association of Clinical Anatomy and the Society of Spanish Anatomists, Platform Talk, "Distance learning for the study of embryology," MJ Holterman.
21. July 2002: London, UK, Society for the History of Authorship, Reading and Publishing, "An enduring monument: Philadelphia's contributions to *The Medical & Surgical History of the War of the Rebellion* (1870-1888)," M Rhode.
22. August 2002: Washington, DC, Ideal Academy, "Unlocking the mysteries of the brain," AJ Fobbs.
23. August 2002: Shepherdstown, WV, 10th Annual Conference on Civil War Medicine, sponsored by the National Museum of Civil War Medicine, "Bones, bodies, and bullets: a forensic scientist's perspective on the Civil War," PS Sledzik.

24. September 2002: Montpellier, France, International Association of Forensic Sciences, "Development of standard protocols for management of morgue facilities in mass disasters," M London, L Barbian, D Mulhern, P Sledzik.
25. September 2002: Timisoara, Romania, 17th International Symposium on Morphological Sciences, Platform Talk, "Human embryology education: computer models and animations provide valuable teaching tools," MJ Holterman, D Bolender, MJ Pescitelli, OA Ashiru, GA Blew.
26. September 2002: Williamsburg, Va, Virginia Homicide Investigators Association Annual Meeting, "DMORT and mass fatality incident operations," PS Sledzik.
27. October 2002: Flatwoods, WV, West Virginia Medicolegal Death Investigation Course, "DMORT and mass fatality operations," PS Sledzik.
28. October 2002: Washington, DC, 5th Annual Archives Fair at the Smithsonian Institution's Ripley Center, M Rhode, T Oglesby.
29. October 2002: Silver Spring MD, Rock Creek Health Club, Unlocking the Mysteries of the Brain, AJ Fobbs.
30. October 2002: Washington, DC, National Museum of Health and Medicine, Science in the Classroom Teachers Workshop, AJ Fobbs, S Sandhu, S Saluke, A Noe, JM Burns.
31. November 2002: New Orleans, La, Society for Neuroscience, "Web site access to museum specimens for use in neuroscience classrooms and laboratories," JI Johnson, JA Morris, PM Gorayski, SE Sheppard, RA Carloni, BM Winn, WI Welker, CL Dizack, KL Graeme, AJ Fobbs.
32. November 2002: Somerset, NJ, 41st Annual Eastern Analytical Symposium, "The role of the federal government in mass fatality incidents," PS Sledzik.
33. December 2002: Fairfax, Va, George Mason University, "The National Museum of Health and Medicine, Armed Forces Institute of Pathology, and the next generation Internet," A Noe.
34. December 2002: Washington, DC, 4th Conference on Partnership Opportunities for Federally Associated Collections, "How bodies attract: capitalizing on changing perceptions of museum content," J Connor, L Barbian.
35. December 2002: Washington, DC, NMHM/AFIP, "Flesh and bones: anatomical collections and their display," L Barbian.
36. December 2002: Sun City, South Africa, International Symposium of Morphologist Sciences, "Digital images of sectioned human embryos on DVDs," RF Gasser, RJ Cork.

PUBLICATIONS

Journal Articles

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2. Hawk A. Jungle medicine, treating VC wounded. *Vietnam*. 2002;15:42-48, 64.
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